

EFFECTIVENESS OF REFLEXOLOGY ON PAIN DURING FIRST  
STAGE OF LABOUR AMONG PRIMI GRAVIDA  
MOTHERS IN A SELECTED HOSPITAL  
AT COIMBATORE



A DISSERTATION SUBMITTED TO THE TAMILNADU  
DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL  
FULFILMENT OF REQUIREMENT FOR THE DEGREE OF  
**MASTER OF SCIENCE IN NURSING**  
OBSTETRIC AND GYNAECOLOGY NURSING

APRIL- 2016

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BY  
**W. DEEPA SHALINI**

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APPROVED BY THE DISSERTATION COMMITTEE ON.....

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CERTIFIED THAT THIS IS THE BONAFIDE WORK OF  
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## **DEDICATION**

***“Every time I count my blessing,***

***My love for god***

***Grows bigger***

***Every time I count my struggles,***

***My faith in god***

***Grows stronger”***

***I dedicate this study to my lovable parents***

***Mr. J. WILLIAM and Mrs. M.MANONMANI***

***And my dear loving brother***

***Mr. W. REUBEN***

***For their love, blessings, spiritual support, motivation and  
encouragement throughout my study***

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## **ABSTRACT**

The main aim of the study was to evaluate the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore. The conceptual framework used for the present study was based on Ernestine Wiedenbach's Helping Art of Clinical Midwifery practice (1967).

A quasi experimental pre test post test control group design was used in this study. Sixty samples in active phase were selected by using non probability purposive sampling technique. Reflexology intervention given to the experimental group. Data was collected before and after intervention immediately, 1 hour, 2 hour intervals, by using San Diego non verbal pain scale. The study finding showed that the obtained 't' value was (19.37) significant. It shows that the reflexology was effective in reducing pain during active phase of labour in first stage immediately, 1 hour, 2 hour intervals.

**KEY TERMS:** Evaluate, Effectiveness, Pain, First stage of labour, Reflexolgy, Primigravida mothers

## TABLE OF CONTENTS

CHAPTERS	CONTENTS	PAGE NO.
I	<p>INTRODUCTION</p> <ul style="list-style-type: none"> <li>➤ Background of the Study</li> <li>➤ Need for the Study</li> <li>➤ Statement of the Problem</li> <li>➤ Objective of the Study</li> <li>➤ Hypotheses</li> <li>➤ Operational Definition</li> <li>➤ Delimitations</li> <li>➤ Projected Outcomes</li> </ul>	
II	<p>REVIEW OF LITERATURE</p> <ul style="list-style-type: none"> <li>➤ Studies related to Primary mental function among Schizophrenics</li> <li>➤ Studies related to Art Therapy.</li> <li>➤ Studies related to Art Therapy among Schizophrenics.</li> </ul> <p>CONCEPTUAL FRAME WORK</p>	

(Contd.,)

CHAPTERS	CONTENTS	PAGE NO.
III	<p>RESEARCH METHODOLOGY</p> <ul style="list-style-type: none"> <li>➤ Research Approach</li> <li>➤ Research Design</li> <li>➤ Variables</li> <li>➤ Setting of the Study</li> <li>➤ Population</li> <li>➤ Sample</li> <li>➤ Criteria for Sample Selection <ul style="list-style-type: none"> <li>• Inclusion Criteria</li> <li>• Exclusion Criteria</li> </ul> </li> <li>➤ Sampling Technique</li> <li>➤ Description of the Tool</li> <li>➤ Validity</li> <li>➤ Reliability</li> <li>➤ Pilot Study</li> <li>➤ Data Collection Procedure</li> <li>➤ Plan for Data Analysis</li> <li>➤ Protection of Human Rights</li> </ul>	

CHAPTERS	CONTENTS	PAGE NO.
IV	DATA ANALYSIS AND INTERPRETATION	
V	DISCUSSION	
VI	SUMMARY, CONCLUSION AND RECOMMENDATIONS <ul style="list-style-type: none"> <li>➤ Summary of the Study</li> <li>➤ Major Study Findings</li> <li>➤ Conclusion</li> <li>➤ Implications of the Study</li> <li>➤ Limitations</li> <li>➤ Recommendations</li> </ul> <p>REFERENCES</p> <p>APPENDICES</p>	

## LIST OF TABLES

TABLE NO	TITLE	PAGE NO
1	Frequency and percentage distribution of demographic variables of primi gravida mothers during first stage of labour in experimental and control group.	
2.1	Level of pain during first stage of labour among primi gravida mothers in experimental group.	
2.2	Level of pain during first stage of labour among primi gravida mothers in control group.	
3.1	Mean, Standard deviation, 't' value of pain during first stage of labour among primi gravida mothers after reflexology in experimental group at 0,1 and 2 hour	
3.2	Mean, Standard deviation, 't' value of pain during first stage of labour among primi gravida mothers in control group at 0,1 and 2 hour.	

TABLE NO.	TITLE	PAGE NO.
3.3	't' value of post test of pain during first stage of labour among primi gravida mothers in experimental and control group at 0, 1, 2 hour.	
3.4	Data on Association Between the Post Level of Pain with Selected Demographic Variable in Experimental Group.	
3.5	Data on Association Between the Post Level of Pain with Selected Demographic Variable in Control Group.	

## LIST OF FIGURES

FIGURE NO.	TITLE	PAGE NO.
1	Conceptual framework.	
2	Schematic Representation of Research Methodology.	
3	Level of pain during first stage of labour among primi gravida mothers in experimental group at 0 hour.	
4	Level of pain during first stage of labour among primi gravida mothers in experimental group at 1 hour.	
5	Level of pain during first stage of labour among primi gravida mothers in experimental group at 2 hour.	
6.	Level of pain during first stage of labour among primi gravida mothers in control group at 0 hour.	

7	Level of pain during first stage of labour among primi gravida mothers in control group at 1 hour.	
8	Level of pain during first stage of labour among primi gravida mothers in control group at 2 hour.	
9	't' value of post test of pain during first stage of labour among primi gravida mothers in experimental and control group at 0, 1, 2 hour.	



## LIST OF APPENDICES

FIGURE NO.	TITLE
A	Letter Seeking and Granting Permission to Conduct the Study in ICC hospital, Coimbatore
B	Letter Requesting the Opinion of Experts on Content Validity of the Tool
C	List of Expert Consulted for Content Validity
D	Certificate of Validation.
E	Certificate of Reflexology Training.
F	Structure interview schedule. (English).
G	Intervention on Reflexology. (English)

# CHAPTER I

## INTRODUCTION

*“Every woman’s guide to choose less pain and more joy during child birth”*

- William Camann

God choose mothers to bear the responsibility of providing physical bodies for his children through the miraculous process of pregnancy and birth. Being a mother means participating in the miracle that is God’s greatest work. (Julie. B. Beck).

Every woman is a gift when she becomes a daughter. Every woman is special when she becomes a wife. Every woman is a God when she becomes a mother (Vivek Thangaswamy). Being a mother is learning about strength you didn’t know you had, and dealing with fears you didn’t know existed (Nishan Panwar). Mother is the name for God, on the lips and heart of all children. The mothers need mothering too (William makepeace Thackeray).

Labour is the only blind date you can be sure that you will meet the love of your life. Labour is the bridge between pregnancy and motherhood, and for the laboring woman. It is often an intense experience of the pregnancy (Lynna.Y & Joan.C 2012).

A human body can bear only upto 45 del (unit) of pain, yet at time of giving birth, a mother feel upto 57(del) of pain .This is similar to 20 bones getting fractured at a time (Rumor Killer 2011).

Labour pain is an unpleasant, complex, highly individualized phenomena with both sensory and emotional components. Pregnant women commonly worry about

pain they will experience during labor and birth and how they will react to and deal with that pain. Many physiologic, emotional, psychosocial and environmental factors influence the nature and degree of pain experienced by the laboring woman and how she will respond to and cope with the pain (Lynna.Y & Joan.C 2012).

Child birth is a painful experience for almost all women. The pain experienced during labour has multiple physiological dimensions and its intensity can vary greatly from one woman to another. Child birth is not only about making babies, birth is about making mothers – strong, competent, Capable mothers who trust themselves and know their inner strength. Childbirth is more admirable than conquest. More amazing than self defense, and as courageous as either one (The WHO Reproductive Health Library 2013).

In the study of Black (2005) which was carried out in the UK, one of the most important determinants was the individual's inclination towards vaginal delivery, which is influenced by several factors including interest in experiencing vaginal delivery, previous positive experiences, lack of anxiety about the safety of mother and baby, faster recovery after delivery, and fear of anesthesia.

In India according to official statistics, prevalence of C-section is on average three times higher than the global rate, In fact, in years 2002 and 2003, it was estimated to be 36% and 33%, respectively. (The WHO Reproductive Health Library 2005).

C-section is only recommended when the life of the mother or fetus is at risk. However, this method has currently become a way of escaping from labor pain. People have a common belief that cesarean delivery is less painful, safer, and healthier than vaginal delivery. In fact, more than half of women voluntarily undergo

C-section. Individual's views and attitudes significantly influence the choice of delivery from the first stage itself.

During the first stage of labour, uterine contraction cause cervical dilatation and effacement. Labour pain results in physiologic effects, sensory and emotional (affective) responses. During childbirth, pain gives rise to identifiable physiologic effects. Blood pressure and heart rate increase. Pallor and diaphoresis may be seen. Gastric acidity increases, and nausea and vomiting are common in the active phase of labor. Certain emotional expressions of pain are often seen. Such changes includes increasing anxiety with lessened perceptual field, writhing, crying, groaning, gesturing (hand clenching and wringing), and excessive muscular excitability throughout the body ( Lynna.Y & Joan. C 2012).

Most women in labour request pain relief and various pharmacological and non-pharmacological interventions are used for this purpose. An increased availability of these methods can provide effective alternative for women in labour (The WHO Reproductive Health Library 2013).

The management of labor pain consists of pharmacological management and non pharmacological management. The pharmacological management includes narcotics, parental opioids, epidural analgesia, nitrous oxide, tranquilizers, Para cervical block, spinal block, pudendal block The non-pharmacological management includes massage, guided imagery, meditation, breathing techniques, positions, hot or cold therapy, music and audio analgesia, sterile water injections, calm birth, water birth, hypnosis, acupuncture, acupressure aromatherapy, reflexology, and TENS( transcutaneous electronic nerve stimulation) ( Penny Simkin 2015).

Among all the non pharmacological methods for labor pain, reflexology is one of the best methods... because in reflexology the treatment is safe, free from side effects, giving lasting cure, economical, and it is compatible with other forms of treatment.

Reflexology was introduced to the united states in 1913 by William .H. Fitzgerald (1872-1942). Dr.Edwin Bowers. Fitzgerald claimed that applying pressure had anaesthetic effect on other area of the body. Reflexology was modified in the 1930 and 1940 by Eunice D.Ingham (1889-1974) a nurse and physiotherapist. Ingham claimed that the feet and hand were especially sensitive and mapped the entire body into reflexes on the feet remaining “Zone Therapy” to reflexology (Barette 2015).

Reflexology is an ancient art. Reflexology provides good comfort and relaxation. Studies reported that reflexology manage symptoms and provide comfort. Reflexology involves massage and the application of pressure, to points on the feet, which correspond to various organs and system in the body (Jeannette Mc Callum).

Mothers suffer from pain during labour in each uterine contraction. Labour pain is an intolerable pain. Applying foot reflexology will reduces the pain during first stage of labour.

## Need for the Study

A mother can take the place of anyone but no one can take her place. Her love is the fuel that enables a normal human being to do the impossible. Pregnancy is a wonderful time to come to know yourself more deeply, to face your fears and to become aware of existing beliefs and expectations of birth and motherhood.

Pregnancy and childbirth make a woman an instant mother. Giving birth should be your greatest achievement not your greatest fear. Childbirth is an experience in a woman's life, she holds the power to transform her forever. Childbirth is painful in order to show how serious a thing life is. Pain during labour is different for every woman.

Statistical data of number of normal vaginal deliveries in the year 2014 is 2,642,892 in United States. (The WHO Reproductive Health Library 2014).

In India (2014) statistics normal delivery rates are 92%. On an average 28.30 million deliveries take place annually in India. In Tamilnadu (2013) statistics show that 94.2% of normal deliveries have been taken place at private and government institutions. In Coimbatore, (2014) 150 deliveries take place daily with more than 90% done in hospitals, private nursing homes conduct about 60-70 deliveries, and the rest is spread across rural primary health centers, Medical colleges, district and sub district hospitals in Coimbatore (The District Family Welfare Index 2013-14).

Labor pain is an individual experience. It can be influenced by a number of factors such as cultural practices, anxiety, fear and psychological support. Although labour is often thought of as one of the more painful events in human experience, it ranges widely from woman to woman and even from pregnancy to pregnancy (Lynna.Y & Joan.C 2012).

Jaspinder kaur (2013) conducted a retrospective study in Obstetrics and Gynaecology department in Punjab institute of Medical science in April 2013 reported that the prevalence of caesarean section (65%) was higher over vaginal birth (35%). Women think that caesarean section is the best method to get relieved from pain during labour. Complications of Caesarean section are lung aspiration,

pulmonary embolism, post partum haemorrhage, infection, longer hospital stay may lead to difficulty in bonding with the baby. So Caesarean section can be harmful to the foetus and the neonate without any benefits to the mother.

Some mothers go for pharmacological management. pharmacological management like epidural analgesia, combined epidural or gas and air during labour has side effects like nausea, vomiting, dizziness, higher rates of assisted delivery, decreased maternal cardiac output, prolongation of second stage labour or problems like high B.P and fever; foetal side effects like hypoxia, higher rates of assisted delivery, respiratory distress and still births. To avoid such unwanted outcome to the foetus and the mother such non-pharmacological managements are helpful. These managements also give satisfaction to the mother.

Anarado. A (June 2015) conducted a study to assess pregnant women's knowledge and willingness to use non-pharmacological labour pain relief. Using a descriptive cross-sectional design, a pre-tested, structured questionnaire was administered to a convenient sample of 245 prenatal women at a specialist maternity hospital in Enugu Southeastern Nigeria. Majority (68.6%) of the women knew, but 31.4% were unaware that non-pharmacological labour pain reliefs exist in the study facility. Only 34.7% were able to identify at least four such methods, 21.2% could elicit two (each) advantages and disadvantages, and 0% to 28.3% had perceived self-efficacy of how to use each method. The leading four methods identified were breathing exercises (51.8%), massage (36.7), position changes (32.2%), and relaxation techniques (26.5%). Majority (59.6%) of the women expressed willingness to use non-pharmacological pain strategies in future labour, which is associated with increased knowledge of the methods, and parity ( $p < 0.001$ ). Pregnant women had limited knowledge of, but majority expressed willingness to use in labour non-

pharmacological pain reliefs. Nurses/midwives should give adequate childbirth information and preparation on labour pain reliefs to antenatal women to inform their choices and effective use during labour.

Reflexology is an alternative medicine involving application of pressure over the feet and hands with specific finger. It is based on a system of zones and reflex areas that reflect an image of the body on the feet and hands, with the premise that such work affects a physical and mental changes (like pain, stress, anxiety, pressure etc) in the body.

Moghimi-Hanjani S, et.al, conducted the clinical trial study to assess the effect of foot reflexology on anxiety, pain and outcomes of the labor in primigravida women. This study was conducted on 80 primi gravida mothers . The pain intensity was scored immediately after the end of intervention and at 30,60 and 120 min after the intervention in control group and intervention group, based on McGill Questionnaire for Pain Rating Index (PRI). Spielberger State-Trait Anxiety Inventory (STAI) was completed before and after intervention in both groups. The result shows that, Application of reflexology technique decreased pain intensity (at 30, 60 and 120min after intervention) and duration of labor as well as anxiety level significantly ( $P<0.001$ ). Furthermore, a significant difference was observed between two groups in terms of the frequency distribution of the type of labor and Apgar score ( $P<0.001$ ). Using this non-invasive technique, obstetricians can achieve, to some extent, to one of the most important goals of midwifery as pain relief and reducing anxiety during labor and encourage the mothers to have a vaginal delivery



Reflexology is an ancient, mild and non-invasive technique, used widely as one of the non-pharmacological methods for pain relief. It can be integrated into the current nursing practice which will help to reduce the labour pain of the primi gravida mothers. But only limited research studies have been conducted about reflexology in relieving labour pain. So this researcher wants to manage the first stage labor pain without medication. Thus the researcher selected pain reduction with the help of reflexology.

### Statement of the Problem

A study to evaluate the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore.

### Objectives

- To assess the pre and post level of pain during first stage of labour among primi gravida mothers in experimental and control group.
- To evaluate the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in experimental group.
- To find out the association between the level of pain during first stage of labour among primi gravida mothers with their selected demographic variables.

### Hypotheses

H1: There is a significant difference in pain score of reflexology during first stage of labour among primi gravida mothers in experimental and control group.

H2: There is a significant difference in pre and post score of reflexology during first stage of labour among primi gravida mothers in experimental group.

H3: There is a significant association between the level of pain during first stage of labour among the primi gravida mothers with their selected demographic variables.

## Operational Definition

### Effectiveness

It refers to the outcomes of reflexology in terms of reducing perception of pain during first stage of labour among primi gravida mothers as assessed by using San Diego non verbal pain scale.

### Reflexology

It refers to the application of pressures over the points just below 1cm from the ankle of the feet to control the pain during first stages of labour among primi gravida mothers. The duration of reflexology includes 25 pressures for 30 minutes.

### First Stage of Labour

The first stage begins with regular rhythmic uterine contraction and it complete when the cervix is fully dilated. It has 2 phases are latent phase 0-3 cm and active phase 4-8 cm dilatation. In this study the researcher observed the samples from 4 cm dilatation to 8 cm during active phase of first stage of labour.

### Pain

Pain is an unpleasant sensory and emotional experience associated with first stage of labour among primi gravida mothers as assessed by using San Deigo non verbal pain scale inferred as no pain, mild, moderate and severe pain.

## Primi Gravida Mothers

Mothers who are pregnant for the first time and coming for delivery during first stage of labour with 4-8cm cervical dilatation.

## Delimitations

1. Mothers who are willing to participate in the study.
2. The study is limited to primi gravida mothers
3. Mothers who are in first stage of labour with 4-8cm dilatation.

## Limitation

1. High risk mothers who are having bad obstetrical history.

## Projected Outcomes

- The study will help the nurses to identify the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers.
- The study findings will help the nurses to practice the reflexology according to the level of pain during first stage labour among primi gravida mothers.

## **CHAPTER -II**

### **REVIEW OF LITERATURE**

Review of literature is one of the most important steps in the research process. It is a summary of current theoretical and scientific knowledge about particular problem, which includes what is known and not known about the problem. It is a description and analysis of the literature relevant to a particular field or topic. In the present study an extensive literature survey has been made to collect the facts and findings over the year related to effectiveness of reflexology.

According to University of Toronto,(2001) a literature review is an account of what has been already established or published on a particular research topic by accredited scholars and researcher.

Research literature were reviewed and organized under the following heading,

- Studies related to Labour Pain.
- Studies related to Effectiveness of Reflexology.
- Studies related to Effectiveness of Reflexology on Labour Pain.

#### **Studies Related to Labour Pain**

Joyce Milima James (March 2012), et.al, conducted a descriptive study for awareness and attitudes towards labour pain and labour pain relief of urban women attending in the antenatal clinic of a 30-bedded private hospital in Chennai, India. After institutional approval and informed consent, the prepared questionnaire was handed to the women to be filled up while waiting for the antenatal check-up. Two hundred questionnaires were handed out, 109 were returned and 91 had answered

most of the questions. Two-thirds of the primiparas were aware that labour is painful. This descriptive study revealed that there is sufficient awareness that labour is painful and that there are ways to relieve labour pain. However, there is a lack of knowledge regarding the need for pain relief during labour, the various types of labour pain relief methods and their advantages and disadvantages.

Waldenström U, et.al, (1996) conducted the study to clarify different aspects of the birth experience, and to identify factors that could explain the variation in women's overall assessment of it. All Swedish-speaking women in a large city who gave birth during a two-week period in 1994 were given a questionnaire one day after the birth, and 295 (91%) of the questionnaires were returned. Information about the labor process and medical interventions was collected from hospital records. The result shows that 77 percent of the Women usually experienced severe pain and various degrees of anxiety, and most were seized with panic for a short time or some part of their labor. Despite these negative feelings 10 percent of the women felt greatly involved in the birth process, were satisfied with their own achievement, and thought they had coped better than expected.

### Studies Related to Effectiveness of Reflexology

Nazari, et.al, (2015) conducted a double-blind clinical trial study. The study population consisted of 50 female and male nurses suffering from chronic low back pain working in hospitals affiliated with Isfahan University of Medical Sciences. The participants were divided into two groups of reflexology and non-specific massage. A questionnaire was completed through interviews and a 40 minute sessions of interventions were performed three times a week for two weeks. Pain intensity was measured by Numerical Analogue Scale for pain before and after the intervention.

Descriptive and inferential statistics, including independent t-test and chi-square test, were used to analyze the data. The results showed a significantly higher reduction in pain intensity scores in the reflexology group after the intervention as compared with the non-specific massage group. However, the non-specific massage was also significantly effective in reducing pain. Reflexology can be effective in reducing the severity of chronic back pain, i.e. it is able to reduce pain from moderate to mild. Thus, this technique is recommended to be performed by nurses as a complementary therapy in patient care.

Ozdemir. G, et.al, (2013) conducted to evaluate the effect of foot reflexology on fatigue, pain and cramps in haemodialysis patients. The sample consisted of 80 patients in total, 40 intervention and 40 control patients, receiving treatment in the haemodialysis units of two institutions. Data were collected by using a questionnaire, Piper Fatigue Scale and visual analogue scale for measuring the severity of cramp and pain. The intervention group received reflexology treatment for 1 week in three sessions following haemodialysis, each session lasting approximately 30 min. Parametric and non-parametric tests were used in data analysis. It was determined that reflexology reduced the fatigue subscale scores and total scale scores as well as pain and cramp mean scores in the intervention group. The research results revealed that the severity of fatigue, pain and cramp decreased in patients receiving reflexology.

Terry Oleson, et.al, (1993) conducted a randomized controlled study of premenstrual symptoms treated with ear, hand and foot reflexology. 35 women who complained of previous distress with premenstrual symptoms were randomly assigned to be treated by ear, hand and foot reflexology or to receive placebo reflexology. All subject completed a daily diary, which monitored 38 premenstrual symptoms on a four point scale. Somatic and psychological indicates of premenstrual distress were

recorded each day for 2 months before treatment, for 2 months afterwards. The reflexology sessions for both groups were provided by a trained reflexology therapist once a week for 8 week and lasted 30 minutes each. Analysis of variance for repeated measures demonstrated significantly greater decrease in premenstrual symptoms for the women given true reflexology treatment then for the women in the placebo group.

Valiani, M, et.al, (2010) conducted a quasi experimental study to compare and determine the efficacy of reflexology and Ibuprofen on reduction of pain intensity and duration of menstrual pain, 68 students with primary dysmenorrhea living in Isfahan University of Medical Sciences' dormitories. Simple random sampling was done considering the inclusion criteria and then the students were randomly divided into two groups. In the reflexology group, the subjects received 10 reflexology sessions (40 minutes each) in two consecutive menses cycles. The Ibuprofen group received Ibuprofen (400 mg), once every eight hours for 3 days during 3 consecutive mense cycles. To assess the severity of dysmenorrhea, Standard McGill Pain Questionnaire, visual analog scale (VAS) and pain rating index (PRI) were used in this study. Findings of the study showed that the two groups had no statistically significant difference in terms of demographic characteristics ( $p > 0.05$ ). Reflexology method was associated with more reduction of intensity and duration of menstrual pain in comparison with Ibuprofen therapy. Independent and Paired t-test showed that there was a significant difference in the two groups between intensity and duration of menstrual pain using VAS and PRI in each of the 3 cycles between reflexology and Ibuprofen groups ( $p < 0.05$ ). Considering the results of the study, reflexology was superior to Ibuprofen on reducing dysmenorrhea and its treatment effect continued even after discontinuing the intervention in the third cycle. Therefore, considering that

reflexology is a non-invasive, easy and cheap technique, it seems that it can replace anti-inflammatory drugs (NSAIDs) to avoid their adverse side effects.

Quinn, F, et.al, (2008) conducted a pilot study for a randomized controlled trial to investigate the effectiveness of reflexology in the management of low back pain participant suffering non- specific LBP were recruited and randomized into either a reflexology treatment or sham treatment (according to group allocation) once per week for six consecutive weeks. The primary outcome measures was pain (visual analogue scale), secondary outcome measures were the McGill pain questionnaire. Outcome measures were performed at baseline week 6, week 12 and week 18. VAS score for pain reduced in the treatment group by a median value of 2.5 cm with minimal change in the sham group (0.2). Secondary outcome measures produced an improvement in both groups. Results indicate that reflexology may have a positive effect on LSP.

Shewtha Chowdary et.al, (2006) conducted a study at AIIMS, New Delhi to find out the efficacy of reflexology in post operative pain management. Sixty patients were divided randomly into reflexology group (foot reflexology and required quality of standard drugs) and control group (standard quality of standard drugs alone).pain score was measured by using a visual analog scale of 0-10 pain was measured at the time scale of 1, 2, 6, 24 hours. The results showed a considerable decrease in pain score and decrease in the requirement and quantity of drugs among reflexology group compared to control group.



## Studies Related to Effectiveness of Reflexology on Labour Pain

Moghimi-Hanjani S, et.al, (2015) conducted the clinical trial study to assess the effect of foot reflexology on anxiety, pain and outcomes of the labor in primigravida women. This study was conducted on 80 primi gravida mothers . The pain intensity was scored immediately after the end of intervention and at 30, 60 and 120 min after the intervention in control group and intervention group, based on McGill Questionnaire for Pain Rating Index (PRI). Spielberger State-Trait Anxiety Inventory (STAI) was completed before and after intervention in both groups. The result shows that, Application of reflexology technique decreased pain intensity (at 30, 60 and 120min after intervention) and duration of labor as well as anxiety level significantly ( $P<0.001$ ). Furthermore, a significant difference was observed between two groups in terms of the frequency distribution of the type of labor and Apgar score ( $P<0.001$ ). Using this non-invasive technique, obstetricians can achieve, to some extent, to one of the most important goals of midwifery as pain relief and reducing anxiety during labor and encourage the mothers to have a vaginal delivery.

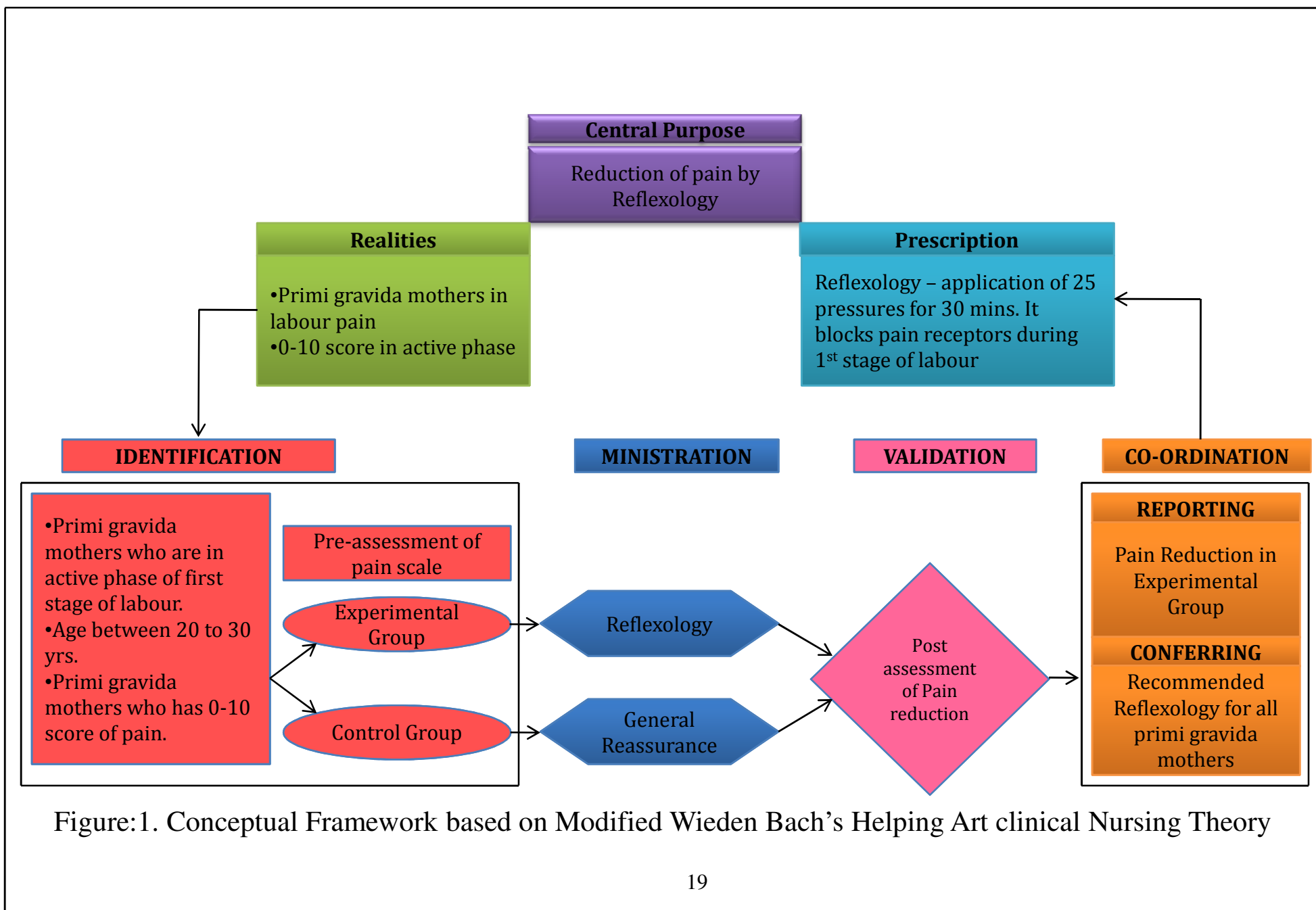
NP Reddy (2012) was conducted a study to compare the effectiveness of reflexology and acupressure among mothers in reduction of pain during first stage of labour in Bangalore. This study was designed by quasi experimental with 2 groups pre test and post test without control group. 60 samples collected by simple random sampling technique. Pre test was assessed by visual analogue scale in both the experimental group 1 and experimental group 2. Two intervention given to two experimental group1 and 2 for 30 minutes. Post test was assessed for both the groups. By this study it shows that reflexology is effective than acupressure in reducing pain during first stage of labour

Dolation, IM, et.al,(2011) conducted a randomized clinical trial study for the effect of reflexology on pain intensity as well as to determine the duration of labour in 120 primiparas parturient women with low risk pregnancy into three groups in Shahid Akbarabadi Hospital, Tehran, Iran. The first group received 40 minutes of reflexology at the beginning of active phase 4-5cm, 6-7cm, and 8-10cm dilatation. The second group received the emotional support in the same duration. The third group received only routine care during labour. Data was collected through the numerical pain scale. Pain intensity at all the three stage of cervical dilatation was significantly lower in reflexology group.

Valiani. MI, et.al, (2011) conducted a quasi experimental study to assess the effect of reflexology on the pain and outcome of the labour. 88 primiparaous mother referred to selected hospital of Isfahan for vaginal delivery were selected using simple random sampling method and the randomized in two groups. Data collection tools were the demographic data Questionnaire, profile and outcomes of the labour and the short form of the McGill Questionnaire for Pain Rating Index (PRI) assessment. The intervention was general and specific reflexology in the active phase of labour. Pain Rating Index was assessed before the intervention 3-5cm, 6-8cm, 9-10cm dilatation and second stage of labour. In the reflexology group, there is a significant difference between the PRI before and after the 4 stages intervention ( $p < 0.001$ ). Reflexology leads to decrease in the labour pain.

Dora Gnana Sundari (2011) conducted a study to assess the effectiveness of foot reflexology techniques on reduction of pain and duration of first stage of labour during labour among primigravida mothers in karnataka. This study was designed by quasi experimental post test only. 60 samples were collected by Non- probability

convenient sampling. Data was collected by interview schedule and observational method. A semi-structured questionnaire is planned to collect the background variables which includes maternal and demographical variables. Visual analogue-pain scale and modified labour progress chart is the assessment tool for measuring pain and duration of labour during first stage of labour. Intervention (Reflexology) given to the experimental group and no intervention in the control group. Post test was assessed for both the groups. This study conclude that there is lower in labour pain in experimental group than in control group.



## CONCEPTUAL FRAMEWORK

### ERNESTINE WIEDEN BACH'S HELPING ART OF CLINICAL NURSING MIDWIFERY PRACTICE (1967)

Ernestine Wiedenbach's helping art of clinical nursing midwifery practice A conceptual framework is the precursor of the theory, conceptual framework play several interrelated roles in progress of sciences. Their overall purpose is to make scientific studies meaningful and generalizable.

Polit and Hungler (1995) "states that a conceptual framework is the interrelated concepts or abstractions that are assembled together in the relevance to the common theme. It is a device that helps to stimulate research and extension of knowledge by providing both direction and impetus."

Kerlinger. K.N (1993) states that a conceptual framework or a model is made up of concepts which are the mental images of the phenomenon. These concepts are linked together to express the relationship between them. A model is used to denote symbolic representation of concepts. One of the important purposes of the conceptual framework is to communicate clearly the interrelationship of various concepts. It guides an investigator to know what data need to be collected and give direction to the entire research process".

The study is based on the concepts of administration of reflexology to reduce the pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore. The investigator adapted the Weidenbach's Helping Art Clinical Nursing Theory (1964) as a base for developing the conceptual framework.

Weidenbach's (1964) proposed the theory as a prescriptive theory of nursing. Prescriptive theory directs action towards an explicit goal.

Weidenbach's model of nursing (1964) defines the patient as "any person receiving help of some kind from the health care system. Help can include care, teaching and advice. In this nursing theory, a patient does not need to be ill or injured since health education qualifies someone as a patient."

The theory is based on three factors; the central purpose which the nurse recognizes as essential to the particular discipline, the prescription for the fulfillment of the central purpose, and the realities in the immediate situation that influence the central purpose. The nurse develops a prescription based on a central purpose and implements it according to the realities of the situation.

## CENTRAL PURPOSE

Central purpose in the theory refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives; it transcends the immediate intent of the assignment or task by specifically directing activities towards the patient's benefits.

In this study, the central purpose is to reduce the pain during the first stage of labour among primigravida mothers.

## PRESCRIPTION

Prescription refers to the plan of care for a patient. It specifies the nature of the action that will fulfill the nurse's central purpose and rationale for the action.

In this study, the nursing intervention prescribed to meet the central purpose is application of reflexology by 25 pressures for 30 minutes intervals in the laboring mothers feet.

## REALITIES

Realities refer to the physiological, physical, emotional and spiritual factors that come into play in a situation involving nursing action.

In this study, the realities such as primi gravida mothers who are in first stage of labour pain, pain score between 0-10 in active phase with 4-8 cm of cervical dilataion.

The conceptualization of nursing practice according to this theory consists of four steps as follows:

Step 1 : Identifying the need for help.

Step2 : Ministering the needed help.

Step3 : Validating whether the need was met.

Step 4 : Co- ordination.

### Step 1: Identifying the need for help

Identification of patient's need for help is through observation, exploration, determination of cause of discomfort and determination of patents capabilities (assessment and diagnosis).

In this study, to identify the need for help is by assessment of level of pain during first stage of labour among primi gravida mothers in experimental and control group is done by using San Deigo non verbal pain scale.

## Step 2: Ministering

Ministering of help evolves from the creation of nursing care plans specifically designed to address patient's needs and once patients agree with plan, the nurse implement the plan (intervention).

In this study, application of reflexology by 25 pressures for 30 minutes intervals to reduce the pain during first stage of labour among primi gravida mothers in experimental group and no intervention in control group.

## Step 3: Validating

Validating whether need for help is met is done when patient manifest signs of comfort and capability.

In this study, it is done by post test assessment on level of pain during first stage of labour among primi gravida mothers in experimental and control group by using San Deigo non verbal pain scale.

A positive outcome represents effectiveness of reflexology on pain during first stage of labour among primi gravida mothers and negative outcome represents ineffectiveness of reflexology on pain during first stage of labour among primi gravida mothers in experimental group.

## Step 4: Co – ordination

Co- ordination is by reporting and conferring.

In this study, it refers to reporting the reduction of pain during first stage of labour among primi gravida mothers in experimental group.



Conferring with the pain during first stage of labour among primi gravida mothers regarding the effectiveness of reflexology.

## ERNESTINE WIEDENBACH AND THE NEED FOR HELP

Ernestine Wiedenbach is a nurse theorist who qualified as a nurse midwife in her forties. She is probably most familiar from her collaboration work the philosophers Dickoff and James in the 1960s Dickoff et al.

In discussion of Weidenbach's contribution to nursing theory the emphasis is placed on her book, clinical nursing, A helping art 1964 however in 1958. She was the author of family centered maternity nursing which she wrote because there were no textbook which focused on the family.

In the preface to the second edition of family centered maternity nursing. Weidenbach summarizes her theory of nursing.

The theory of accountability which underlies the concept of nursing presented in this book. Envision the nurse as accountable not only for what she does, but also in large measure for the result she obtain from what she does. Her responses, other than reflex, according to this theory, stem from her perception of the realities which make up the situation in which she finds herself at any given point in time.

This broad conceptual model encompasses five elements.

The agent : the nurse, midwife or other person

The recipient : the woman, family, community (primigravida mothers)

The goal : the goal of the intervention(reduction of labour pain)

The means : the method to reach the goal (foot reflexology)

The framework: the social organizational and professional environment

Wiedenbach developed her model of the helping art of nursing inductively from her nursing and nurse midwifery practice. The model help to identify components of midwifery practice which contribute to the goals of care. This type of model which focuses on practice rather than outcome, can be likened to the model of midwifery practice developed by Lehrman. Wiedenbach's central concept is with the influence of the knowledge, attitudes and theories held by midwives on practice. Danko et al suggest that wiedenbach's concept are currently being applied to nursing practice to a greater extent.

Wiedenbach made a significant contribution to the development of midwifery theory and in drawing out and helping to explain the different factors which contribute to skilled practice. This skilled, knowledgeable, creative practice in which the midwife coordinates care to meet the needs of the woman and her family is described and illustrated with numerous case studies in family centred maternity nursing.

## **CHAPTER - III**

### **METHODOLOGY**

Research methodology is one of the vital sections of a research proposed since the success of a research mostly depends upon the methodological issues that are followed in the execution of the research work. The role of methodology consists of procedure and technique and concluding the study.

This chapter deals with the methodological approach adopted for the study. It includes description of research approach, research design, variables, setting of the study, population, Criteria for sample selection sampling technique, development and description of the tool, pilot study, data collection procedure and plan for data analysis as a part of the study.

#### **Research Approach**

The research approach used for this study was quantitative approach.

Polit (1995) stated that the quantitative research is the investigation of phenomena that lend themselves to precise measurement and quantification, often involving a rigorous and controlled design.

#### **Research Design**

Polit and Hungler (1995) stated that the research design incorporated the most important methodological decisions that the researcher makes in conducting research study.

The research design chosen for this study was a quasi experimental pre test post test with control group design. It consists of manipulation of independent variable and absence of randomization.

The diagrammatic representation of research design is given below

Group	Pre test	Intervention	Post test		
			Immediate	1 hour	2 hour
Experimental group	O1	X	O2	O3	O4
Control group	O5	X0	O6	O7	O8

### Keys

O1, O5 - pre test pain level

X - Reflexology intervention

X0 - no intervention

O2,O3,O4,O6,O7,O8 - post test pain level.

### Variables

Variables can be defined as any aspect of a theory that can vary or change as part of the interaction within the theory.

Dependent variables : Labor pain.

Independent variables : Reflexology.

## Setting of the Study

The study was conducted in ICC maternity hospital at Coimbatore. The annual admission of the hospital for the normal delivery is 900 mothers, and approximately 75 deliveries per month. Out of which nearly 25-30 primi gravida delivery will take place.

## Population

According to Polit and Hungler (2005), “A population is the entire aggregation of causes in which a researcher is interested”.

The target population of the study was all primi gravida mothers who are in first stage of labor pain.

The accessible population of the study was all primi gravida mothers who are in first stage of labour in ICC hospital.

## Sample

According to Suresh K Sharma,” Sample consists of a subset of units which comprise the population selected by investigator or researcher to participate in their research project”.

A total number of 60 samples were selected for the study, among them 30 sample were kept under experimental group and 30 samples were under control group.

## Criteria for Selection of Sample

### Inclusive Criteria

Primi gravida mothers who are in normal labour

- Age between 20 to 30 years.
- Cervical dilatation between 4 - 8 cm in active phase of first stage.
- Willing to participate in this study.

### Exclusive Criteria

- Multi gravida mothers.
- High risk primi gravida mothers.

## Sampling Technique

According to Polit and Hungler (2006), “Sampling is the process of selecting a portion of the population to represent the entire population”.

In this study the samples were selected by adopting non probability purposive sampling technique. The investigator selected the samples through interview method. 60 samples were selected based on inclusion and exclusion criteria. They were divided in to two groups. 30 samples were in experimental group and 30 were in control group.

## Description of the Tool

Part 1: It consists of demographic variables, Age, Occupational, Type of family.

Monthly income and Religion.

Part 2: It consists of non verbal pain scale to assess the level of pain during first stage of labour. This is developed by San Deigo. It is a 5 criterion measurement scale, each

criteria have 3 points like 0, 1, 2. The mothers are assessed according to each 5 observation categories. The points are totaled. The maximum score was 10 and minimum score is 0.

### Scoring Procedure

For the study purpose the scoring was grouped into

- 0        - No pain
- 1-3     - Mild Pain.
- 4-6     - Moderate Pain
- 7-10    - Severe Pain.

### Testing of the tool

#### Content validity of the tool

According to Suresh k Sharma “content validity is concerned with scope of coverage of the content are to be measured”.

The content validity of the standardized tool was checked and evaluated by 5 experts including 1 medical expert, and 3 nursing experts and 1 reflexologist. Based on their valid suggestion correction was done. The tool was found to be valid in measuring labour pain.

#### Pilot Study

Polit and Nancy (2004) denote that there should be a small scale version or trial run done in preparation for major study.

The pilot study was conducted in R R nursing home at Coimbatore for the period of one week. The purpose was to find out the feasibility of the study. The sample of the pilot study was 5 for one week. The study was found to be appropriate and feasible. The data was analyzed to find out the applicability of the statistical methods. The pilot study results show that the study was feasible and effective.

### Data Collection Procedure

The data collection was done for 30 days in ICC hospital at Coimbatore. Permission was obtained from medical director. Based on the inclusion and exclusion criteria the samples were selected. The samples were informed by the researcher about the nature and purpose of the study. After obtaining their oral consent, the labour pain level was assessed for 60 mothers by observational method with San Diego Non verbal pain scale during the active phase of first stage of labour. The pre test level of labour pain of both experimental and control group was assessed by pain scale, then the reflexology intervention was given to each sample in experimental group about 30 minutes. No intervention for control group. After that the post pain level was assessed immediately, after one hour, after 2 hour intervals in experimental and control group.

### Plan for Data Analysis

The data related demographic variables and level of pain were analyzed using descriptive statistics (Frequency, Percentage, Mean and Standard deviation). The effectiveness of reflexology in reducing pain was analyzed by using inferential statistics (paired and unpaired 't' test). The association between demographic variables and level of pain was analyzed by ( $\chi^2$ ).



## Protection of Human Rights

The study was conducted after the approval of research committee of the college. The nature and purpose of the study was explained to the incharge and staff nurse of the labour ward. Permission was obtained from the authority of the study centre. Oral consent was obtained before starting data collection. Assurance was given to the study subjects that the privacy and anonymity of the each individual would be maintained strictly.

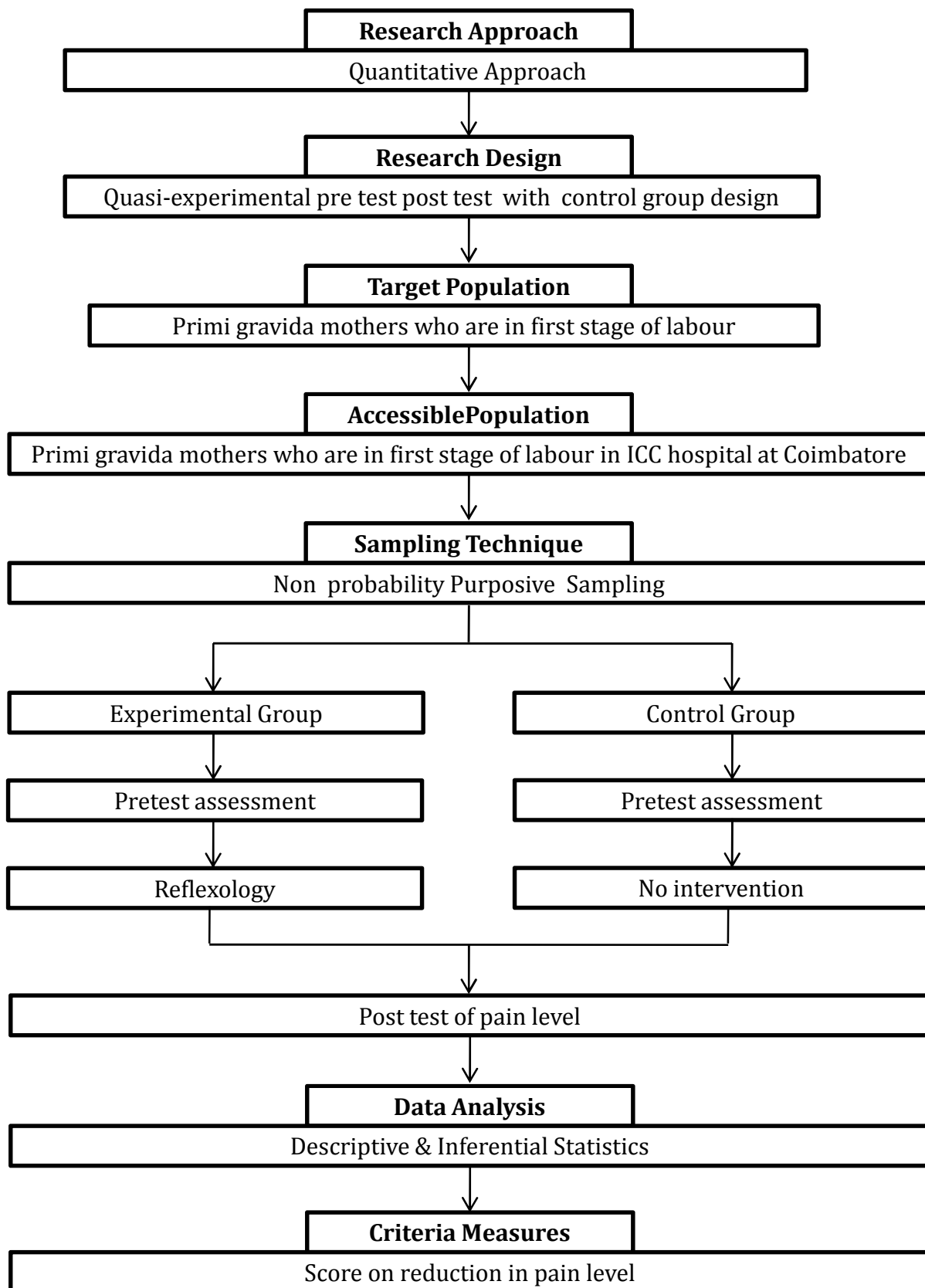


Figure 2: Schematic Representation of Research Methodology

## **CHAPTER IV**

### **DATA ANALYSIS AND INTERPRETATION**

This chapter deals with the analysis and interpretation of data collected from 60 primi gravida mothers, to evaluate the effectiveness of reflexology in reducing the first stage of labour pain.

The purpose of analysis was to reduce the data to manageable and interpretable form so that the research problem can be studied and tested.

The analysis and interpretation of data of this study are based on data collected through interview, by using standardized scale among primi gravida mothers.

The study finding are presented in section as follows.

- Section 1 : Data on demographic variables of primigravida mothers during first stage of labour.
- Section 2 : Data on level of pain during first stage of labour among primi gravida mothers.
- Section 3 : Data on effectiveness of reflexology in reducing pain during first stage of labour among primi gravida mothers.
- Section 4 : Data on association between the demographic variables and Pain during first stage of labour among primi gravida mothers.

## SECTION: I

### DEMOGRAPHIC DATA OF PRIMI GRAVIDA MOTHERS

Table: 1

Frequency and Percentage distribution of demographic variables of primi gravida mothers during first stage of labour in experimental and control group.

N=60

S.No	Demographic variables	Experimental group		Control group		Total	
		n	%	n	%	N	%
1	Age(in years)						
	a) 20 – 22 years	19	32	10	17	29	49
	b) 23-25 years	11	18	20	33	31	51
2	Occupation						
	a) Unemployed	26	43	15	25	41	68
	b) Sedentary workers	4	7	15	25	19	32
3	Type of family						
	a) Nuclear family	19	32	17	28	36	60
	b) Joint family	11	18	13	22	24	40
4	Monthly Income						
	a) <Rs4000	4	7	9	15	13	22
	b) >Rs 4001	26	43	21	35	47	78
5	Religion						
	a) Hindu	15	25	16	27	31	52
	b) Christian	15	25	14	23	29	48

Table 1 reveals that regard to Age, 29 (49%) mothers belongs to the age group of 20-22 years among 19 (32%) and 10 (17%) belongs to experimental and control group. The mothers 31 (51%) belongs to the age group of 23-25 years among 11 (18%) and 20 (33%) belongs to experimental and control group.

Regarding occupation, 41 (68%) mothers belongs to the unemployed among 26 (43%) and 15 (25%) belongs to experimental and control group, 19 (32%) mothers belongs to the sedentary workers among 4 (7%) and 15 (25%) belongs to experimental and control group.

Regarding type of family, 36 (60%) mothers belonged to nuclear family among 19 (32%) and 17 (28%) belongs to experimental and control group, 24 (40%) mothers belonged to joint family among 11 (18%) and 13 (22%) belongs to experimental and control group respectively.

Regarding to monthly income majority of the mothers 13 (22%) belonged to >Rs.4000 among 4 (7%) and 9 (15%) belongs to experimental and control group, 47 (78%) belongs to > Rs 4000 among 26 (43%) and 21 (35%) belongs to experimental and control group.

Regarding religion 31 (52%) mothers belonged to Hindu among 15 (25%) and 16 (21%) belongs to experimental and control group, 29 (48%) mothers belonged to Christian belongs 15 (25%) and 14 (32%) belongs to experimental and control group, None of them belonged to Muslim and in experimental and control group

## SECTION II

### DATA ON LEVEL OF PAIN DURING FIRST STAGE OF LABOUR AMONG PRIMI GRAVIDA MOTHERS.

Table 2.1

Level of pain during first stage of labour among primi gravida mothers in experimental group.

N =30

S:No	Level of pain	Pre test		Post test					
				0 hour		1 hour		2 hour	
		n	%	n	%	n	%	n	%
1	Mild pain	0	0	14	47	0	0	0	0
2	Moderate pain	7	23	16	53	29	97	27	90
3	Severe pain	23	77	0	0	1	3	3	10

Table 2.1 showed that the level of pain during first stage of labour among primi gravida mothers. This findings revealed that among 30 mothers in pre test 7 (23%) had moderate pain, 23 (77%) had severe pain no one had mild pain. In post test, At 0 hour 14 (47%) had mild pain, 16 (53%) had moderate pain and no one had severe pain, At 1 hour 29 (97%) had moderate pain, 1 (3%) had severe pain and no one had mild pain, At 2 hour 27 (90%) had moderate pain, 3 (10%) had severe pain and no one had mild pain. It is inferred that reflexology is effective in reducing labour pain at 0 hour intervals.

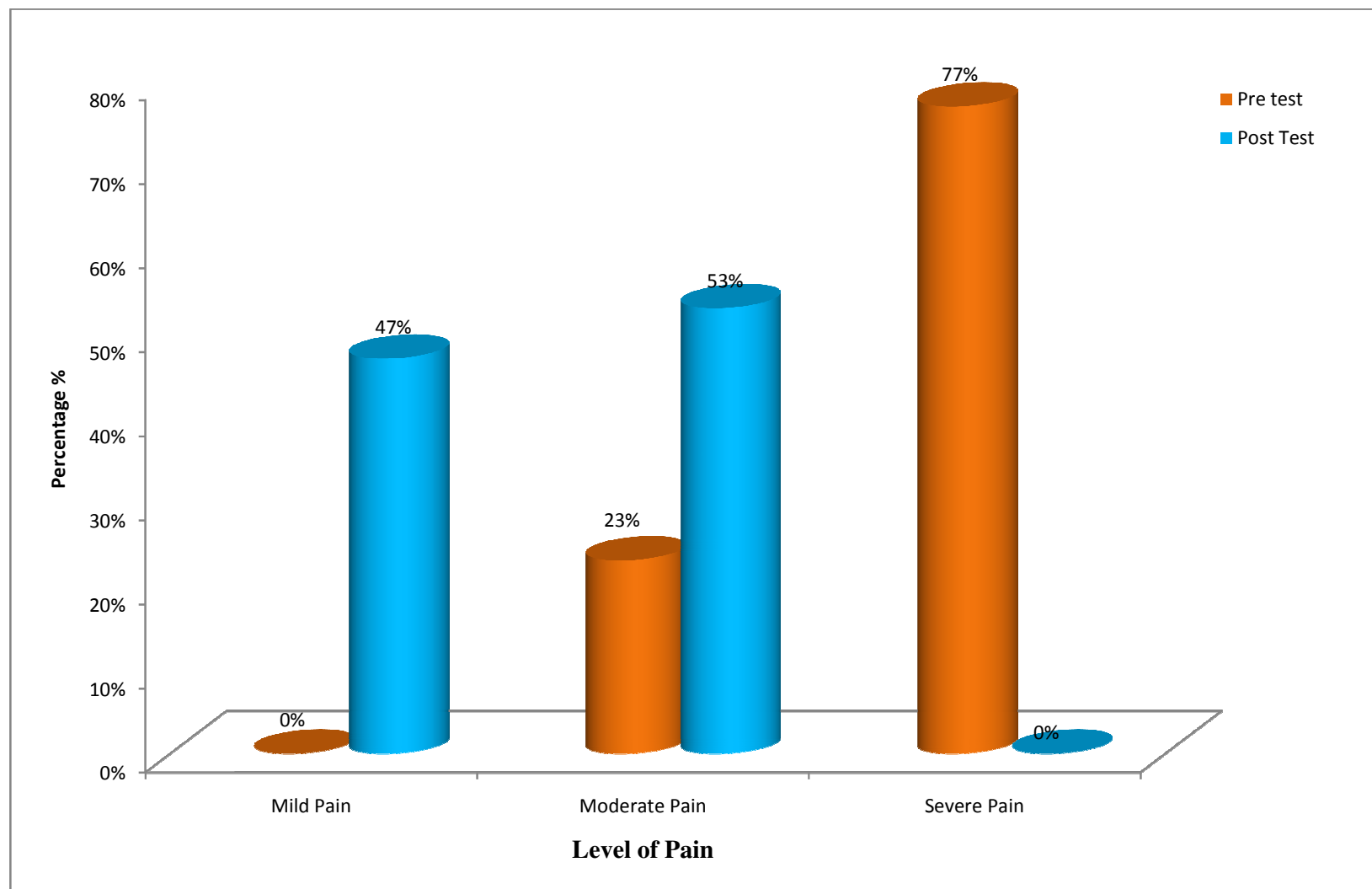


Fig 3 : Level of Pain during first stage of labour among primi Gravida Mother in Experimental group at 0 Hour

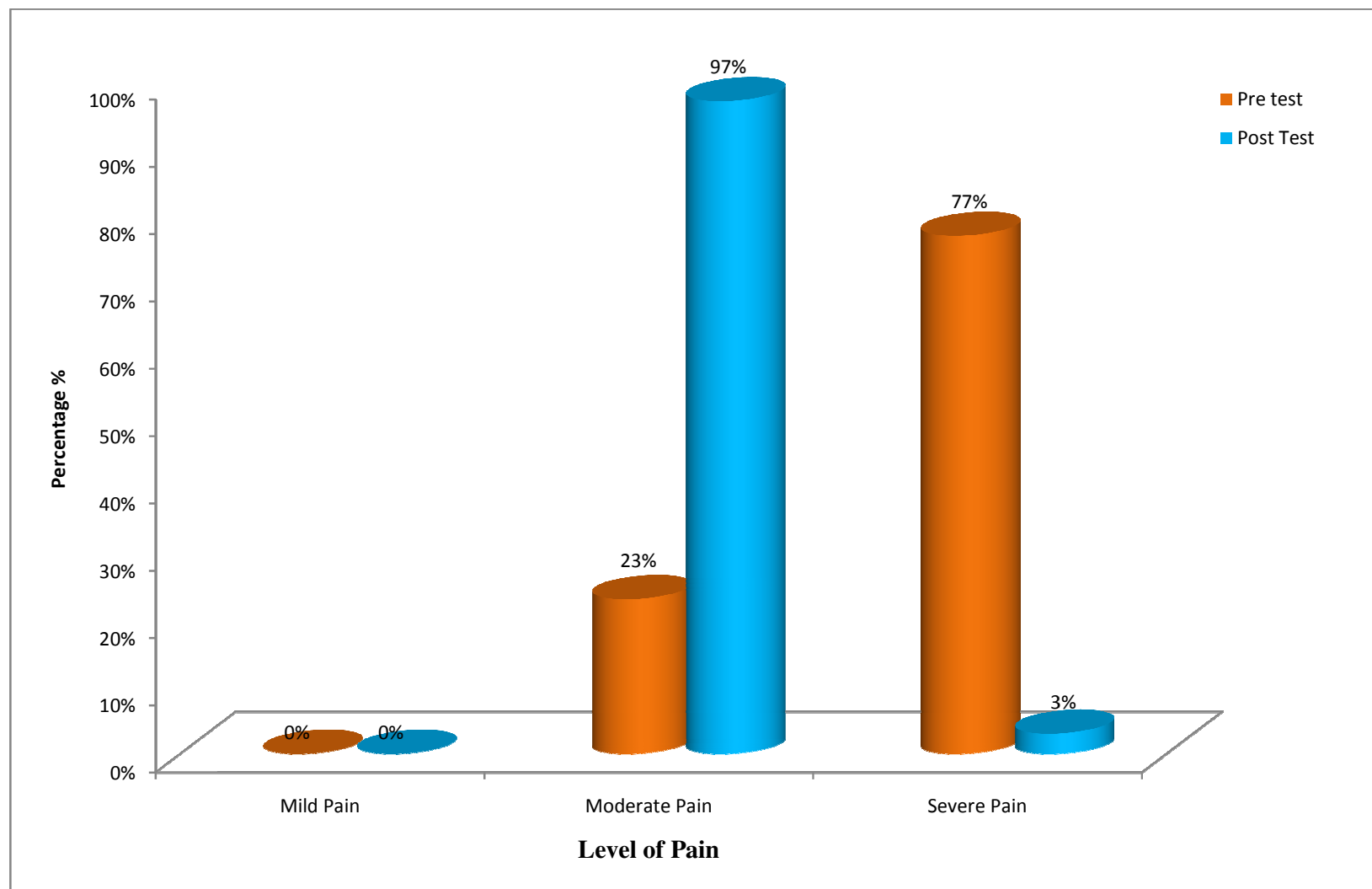


Fig 3 : Level of Pain during first stage of labour among primi Gravida Mother in Experimental group at 1 Hour



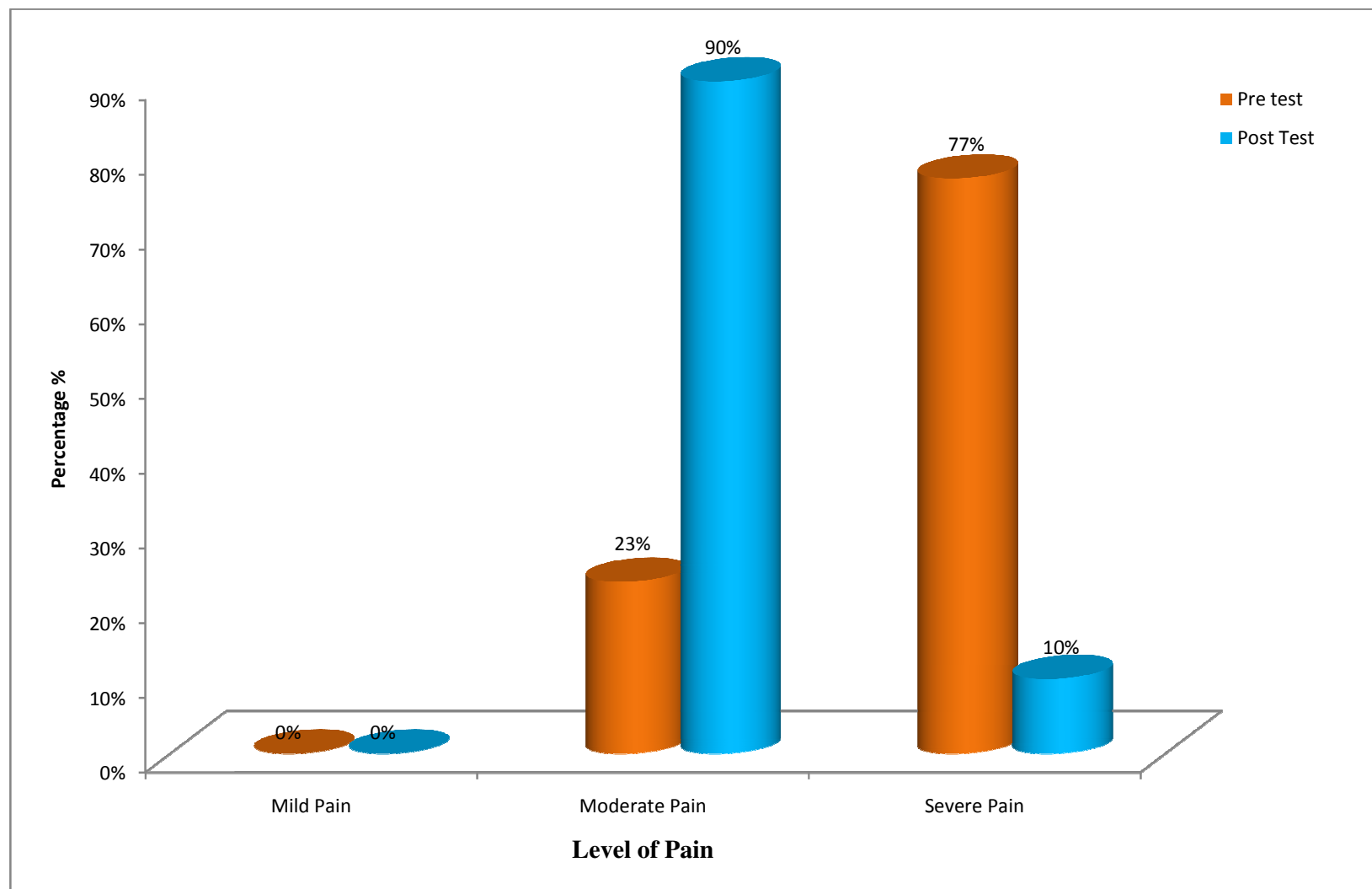


Fig 3 : Level of Pain during first stage of labour among primi Gravida Mother in Experimental group at 2 Hour

Table 2.2

Level of pain during first stage of labour among primi gravida mothers in control group.

N=30

S.NO	Level of pain	Pre test		Post test					
				0 hour		1 hour		2 hour	
		n	%	n	%	n	%	n	%
1	Mild	0	0	0	0	0	0	0	0
2	Moderate	7	23	5	17	5	17	6	20
3	Severe	23	77	25	83	25	83	24	80

Table 2.2 showed that the level of pain during first stage of labour among primi gravida mothers. This findings revealed that among 30 mothers in pre test 7 (23%) had moderate pain, 23 (77%) had severe pain no one had mild pain. In post test, At 0 hour 5 (17%) had moderate pain, 25 (83%) had severe pain and no one had mild pain, At 1 hour 5 (17%) had moderate pain, 25 (83%) had severe pain and no one had mild pain, At 2 hour 6 (20%) had moderate pain, 24 (80%) had severe pain and no one had mild pain.

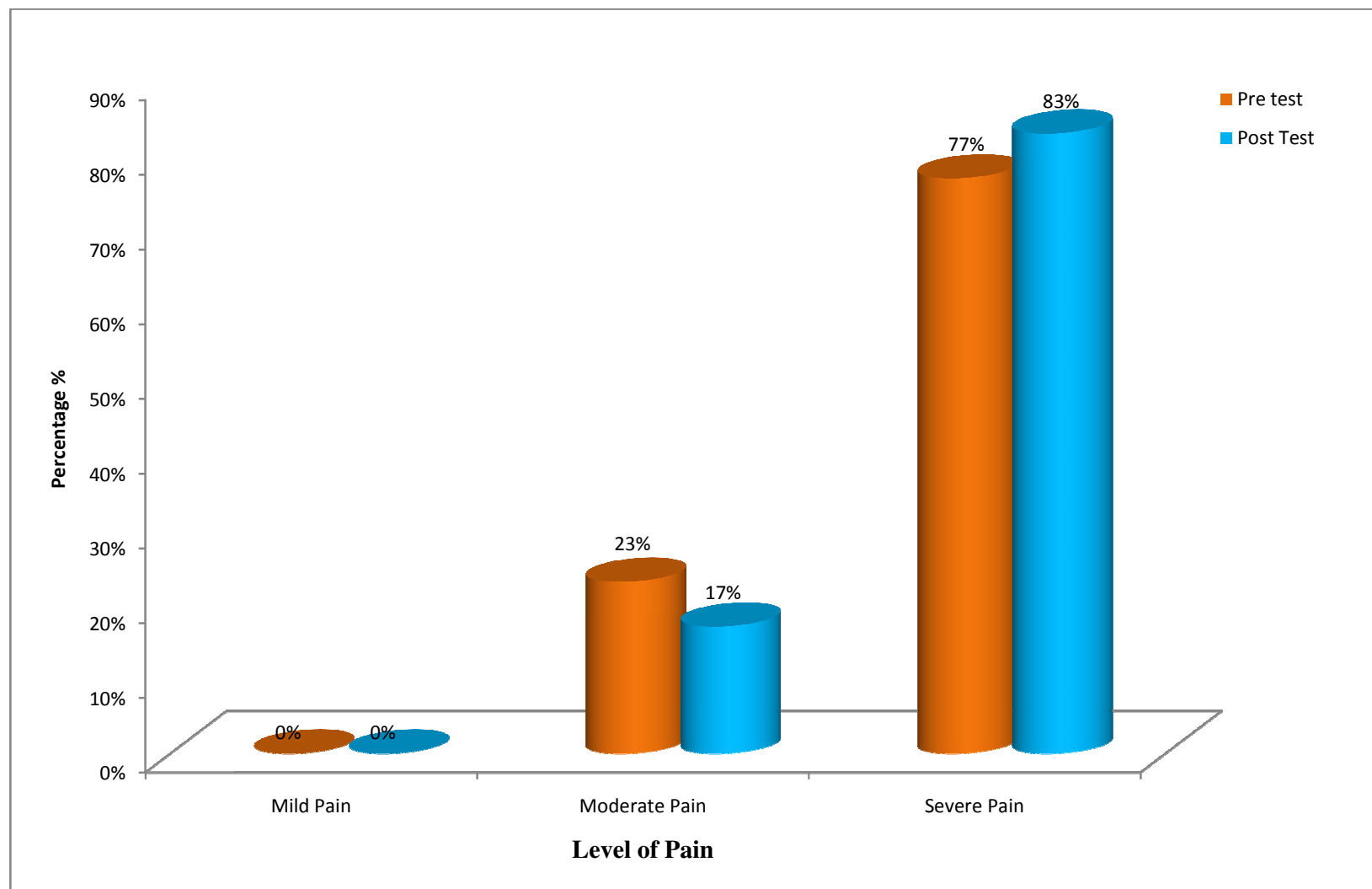


Fig 3 : Level of Pain during first stage of labour among primi Gravida Mother in Control group at 0 Hour

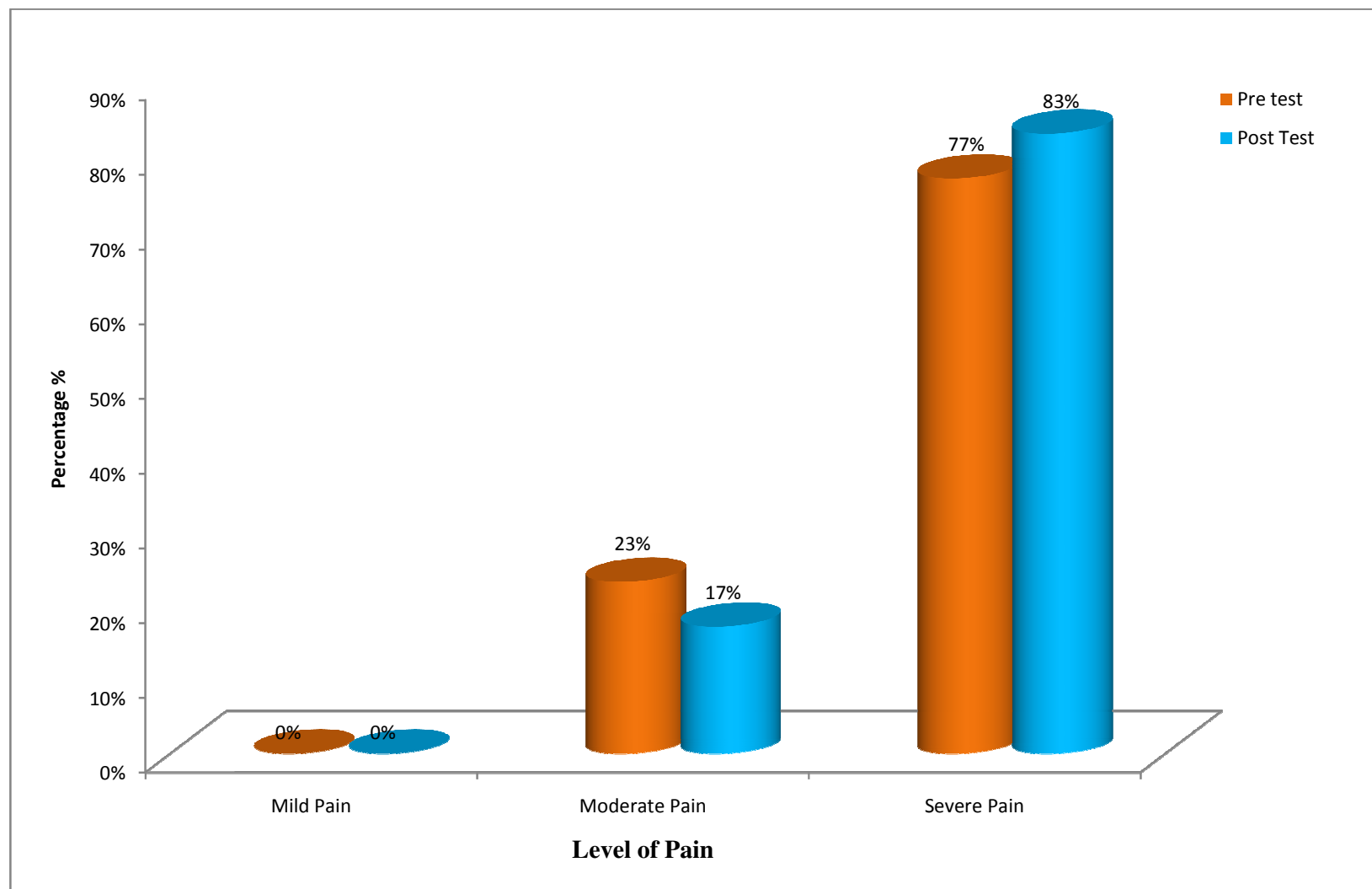


Fig 3 : Level of Pain during first stage of labour among primi Gravida Mother in Control group at 1 Hour

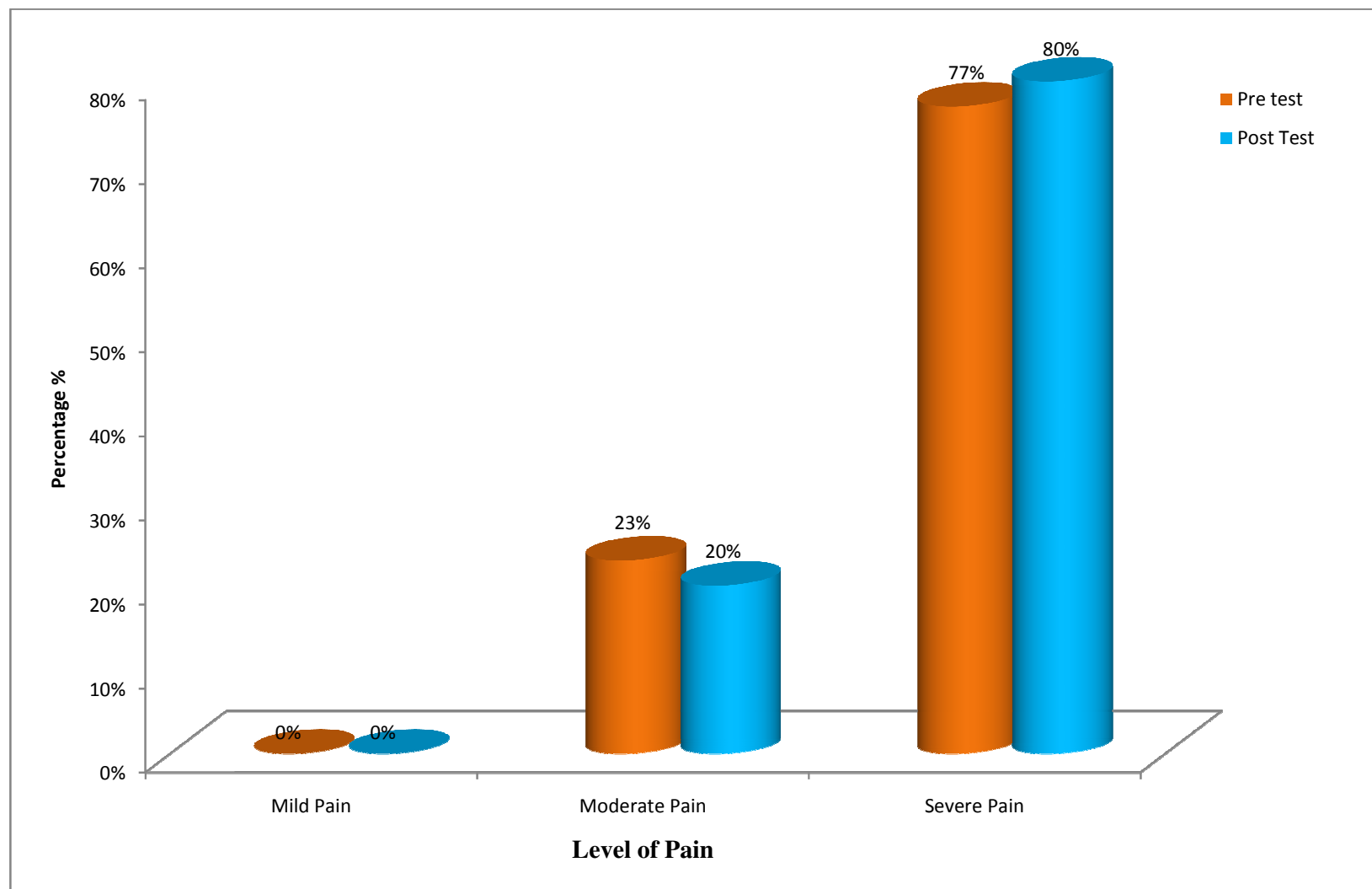


Fig 3 : Level of Pain during first stage of labour among primi Gravida Mother in Control group at 2 Hours

SECTION III

DATA ON EFFECTIVENESS OF REFLEXOLOGY IN REDUCING  
PAIN DURING FIRST STAGE OF LABOUR AMONG PRIMI  
GRAVIDA MOTHERS

Table 3.1

Mean, Standard deviation, 't' value of pain during first stage of labour among primi  
gravidia mothers after reflexology in experimental group at 0,1 and 2 hour

N=30

S.No.	Variables	Mean	Standard deviation	Mean difference	't' Value
	Experimental group				
	Pre-test	7.13	0.708		
	Post test				
	a) Zero hour	3.6	0.63	3.53	19.23*
	b) At one hour	4.8	0.71	2.33	12.43*
	c) At two hour	5.9	0.60	1.33	8.02*

\*significant at  $p < 0.05$  level

Table 3.1 reveals that the mean value during pre test was 7.13 and the mean value during post test was 3.6, 4.8, 5.9 respectively at 0, 1 and 2 hour. The obtained 't' value during post test was significant at  $p < 0.05\%$  in all readings (0, 1 and 2 hours).

Table 3.2

Mean, Standard deviation, 't' value of pain during first stage of labour among primi gravida mothers in control group at 0,1 and 2 hour

N=30

S.No.	Variables	Mean	Standard deviation	Mean difference	't' Value
	Control group				
	Pre-test	7.3	0.85		
	<u>Post test</u>				
	a) Zero hour	7.3	0.83	0	0.20
	b) At one hour	7.26	0.73	0.74	0
	c) At two hour	7.5	0.83	0.2	1.64

\*significant at  $p < 0.05$  level

Table 3.2 reveals that the mean value during pre test was 7.13 and the mean value during post test was 3.6, 4.8, 5.9 respectively at 0, 1 and 2 hour. The obtained 't' value during post test was significant at  $p < 0.05\%$  in all readings( 0, 1 and 2 hours).

Table 3.3

‘ t’ value of post test level of pain during first stage of labour among primi gravida mothers in experimental and control group at 0, 1 and 2 hour .

N=60

S.No	Groups	Zero hour	One hour	Two hour
		‘t’ value	‘t’ value	‘t’ value
1	Experimental group			
2	Control group	19.37*	13.36*	9.34*

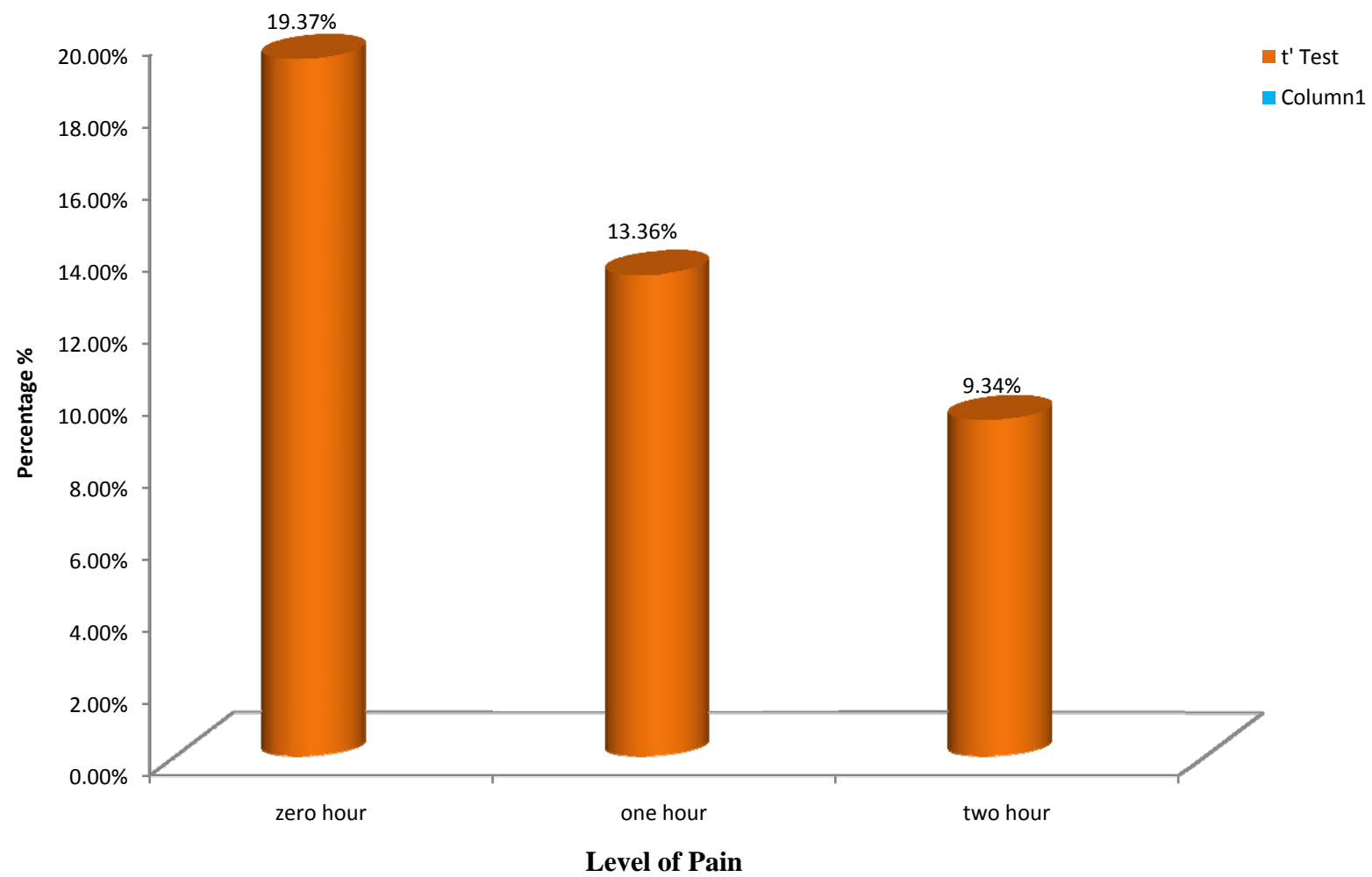
\* significant at P<0.05 level

Table 3.3 Reveals the post test level of pain during first stage of labour among primi gravida mothers in experimental and control group at 0,1 and 2 hour.

The obtained ‘t’ value was significant at  $p < 0.05$  level in all levels of pain during first stage of labour among primi gravida mothers in experimental and control group at 0,1 and 2 hour.

Hence the stated hypothesis is accepted. It is inferred that reflexology are effective in reducing the labour pain.





## SECTION IV

### DATA ON ASSOCIATION BETWEEN THE LEVEL OF PAIN WITH SELECTED DEMOGRAPHIC VARIABLE AND PAIN DURING FIRST STAGE OF LABOUR AMONG PRIMI GRAVIDA MOTHERS.

Table: 4.1

Data on Association between the Levels of Pain with selected Demographic Variable  
in Post Test in Experimental Group at 0 hour

N = 30

S. No.	Demographic Variable	Mild Pain		Moderate Pain		Severe Pain		$\chi^2$ value
		n	%	n	%	n	%	
1.	Age(in years)							
	a) 20 – 22 years	10	33.3	9	30	0	0	0.67 <sup>NS</sup> df=1
	b) 23-25 years	4	13.3	7	23.3	0	0	
2.	Occupation							
	a) Unemployed	13	43.3	13	43.3	0	0	0.91 <sup>NS</sup> df=1
	b) Sedentary coolies	1	3.3	3	10	0	0	
3.	Type of family							
	a) Nuclear family	9	30	10	33.3	0	0	0.003 <sup>NS</sup> df=1
	b) Joint family	5	16.6	6	20	0	0	
4.	Monthly Income							
	a) <Rs 4000	2	6.6	2	6.6	0	0	0.009 <sup>NS</sup> df=1
	b) >Rs 4000	12	40	14	46.8	0	0	
5.	Religion							
	a) Hindu	7	23.3	8		0	0	0 <sup>NS</sup> df=1
	b) Christian	7	23.3	8	26.6	0	0	
	c) Muslim	0	0	0	26.6	0	0	
					0			

Table 4.1 reveals that a summary of  $\chi^2$  analysis which was used to bring out the relationship between pain and demographic variables. Thus stated research hypothesis is not accepted and it is inferred that there is no association between demographic variables and level of pain during first stage of labour among primi gravida mothers

Table 4.2

Data on Association between the level of Pain with selected Demographic Variable in Post Test in Control Group at 0 hour

N=30

S.no	Demographic variables	Mild pain		Moderate pain		Severe pain		Value
		n	%	n	%	n	%	
1	Age(in years)							0.93 <sup>NS</sup> df=1
	a) 20 – 22 years	0	0	3	10	7	23.3	
	b) 23-25 years	0	0	3	10	17	56.6	
2	Occupation							2.16 <sup>NS</sup> df=1
	Unemployed	0	0	1	3.3	14	46.6	
	Sedentary workers	0	0	4	13.3	11	36.6	
3	Type of family							0.002 <sup>NS</sup> df=1
	a) Nuclear family	0	0	3	10	14	46.6	
	b) Joint family	0	0	2	6.6	11	36.6	
4	Monthly Income							2.56 <sup>NS</sup> df=1
	a) <Rs 4000	0	0	0	0	9	30	
	b) >Rs 4001	0	0	5	16.6	16	53.3	
5	Religion							0.46 <sup>NS</sup> df=1
	a) Hindu	0	0	2	6.6	14	46.6	
	b) Christian	0	0	3	10	11	36.6	
	c) Muslims	0	0	0	0	0	0	

Table 4.2 reveals that a summary of  $\chi^2$  analysis which was used to bring out the relationship between labour pain and demographic variables. Thus stated research hypothesis is not accepted and it is inferred that there is no association between demographic variables and level of pain during first stage of labour among primi gravida mothers.

## **CHAPTER – V**

### **DISCUSSION**

The basic aim of the study was to compare the effectiveness of reflexology on pain during first stage of labour among primigravida mothers. The study was conducted by using a quasi experiment pre test post test with control group design. The study was conducted in ICC hospital at Coimbatore. The sample size of 60 was selected.

The structured observation schedule using San Deigo non verbal pain scale was administered to assess the pain level. The response was analyzed through descriptive statistics (mean, frequency, percentage and standard deviation) and inferential statistics (paired and unpaired ‘t’ test). Discussions on findings were arranged based on the objectives of the study.

Objective 1: To assess the pre and post level of pain during first stage of labour among primi gravida mothers in experimental and control group.

This findings revealed that among primi gravida mothers in experimental group during the pre test 7 (23%) had moderate pain, 23 (77%) had severe pain no one had mild pain. In post test, At 0 hour 14 (47%) had mild pain, 16 (53%) had moderate pain and no one had severe pain, At 1 hour 29 (97%) had moderate pain, 1 (3%) had severe pain and no one had mild pain, At 2 hour 27 (90%) had moderate pain, 3 (10%) had severe pain and no one had mild pain. In control group during the pre test 7 (23%) had moderate pain, 23 (77%) had severe pain no one had mild pain. In post test, At 0 hour 5 (17%) had moderate pain, 25 (83%) had severe pain and no one had mild pain, At 1 hour 5 (17%) had moderate pain, 25 (83%) had severe pain

and no one had mild pain, At 2 hour 6 (20%) had moderate pain, 24 (80%) had severe pain and no one had mild pain.

Hypotheses 1: There is a significant difference in pain score of reflexology during first stage of labour among primi gravida mothers in experimental and control group.

The study findings shows there is significant difference in the pain score of reflexology during first stage of labour among primi gravida mothers in experimental and control group. By this reflexology is effective in experimental group than the control group. So this hypothesis was accepted.

Dolation, IM, (2011) July conducted a randomized clinical trial study for the effect of reflexology on pain intensity as well as to determine the duration of labour in 120 primiparas parturient women with low risk pregnancy into three groups in Shahid Akbarabadi Hospital, Tehran, Iran. The first group received 40 minutes of reflexology at the beginning of active phase 4-5cm, 6-7cm, and 8-10cm dilatation. The second group received the emotional support in the same duration. The third group received only routine care during labour. Data was collected through the numerical pain scale. Pain intensity at all the three stage of cervical dilatation was significantly lower in reflexology group.

Objectives 2: To evaluate the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers.

The present study indicated that, in experimental group, at immediate hour the mean difference was (3.53) between pre test mean score was (7.13) and post test mean score was (3.6). The obtained 't' value was (19.23) which was significant at  $p < 0.05$ .

At one hour the mean difference was (2.33) between pre test mean score was (7.13) and post test mean score was 4.8. the obtained 't' value was (12.43) which was significant at  $p < 0.05$ . At two hour the mean difference was (1.33) between pre test mean score was (7.13) and post test mean score was (5.8). The obtained 't' value was (8.02) which was significant at  $p < 0.05$ . In control group, at immediate hour the mean difference was 0 between pre tests mean score was (7.3) and post test mean score was (7.3). The obtained 't' value was (0.20) which was not significant at  $p < 0.05$ . At one hour the mean difference was (0.74) between pre test mean score was (7.3) and post test mean score was (7.26). The obtained 't' value was 0 which was not significant at  $p < 0.05$ . At two hour the mean difference was 0.2 between pre test mean score was (7.3) and post test mean score was (7.5). The obtained 't' value was (1.64) which was not significant at  $p < 0.05$ .

Hypotheses 2: There is a significant difference in pre and post score of reflexology during first stage of labour among primi gravida mothers in experimental group. This study finding reveals that there is significant difference in the level of pain in pre and post score of reflexology during first stage of labour among primi gravida mothers in experimental group. It is proved that, the reflexology is very effective in reducing labour pain during active phase of first stage. So this hypotheses is accepted.

Valiani, MI, (2011) conducted a quasi experimental study to assess the effect of reflexology on the pain and outcome of the labour. 88 primiparaous mother referred to selected hospital of Isfahan for vaginal delivery were selected using simple random sampling method and the randomized in two groups. Data was collected by McGill Questionnaire for Pain Rating Index (PRI) assessment. The intervention was general and specific reflexology in the active phase of labour. Pain Rating Index was

assessed before the intervention 3-5cm, 6-8cm, 9-10cmdilatation and second stage of labour. In the reflexology group, there is a significant difference between the PRI before and after the 4 stages intervention ( $p<0.001$ ). Reflexology can lead to decrease in the labour pain.

Objectives 3: To find out the association between the level of pain during first stage of labour among primi gravida mothers with their selected demographic variables.

Chi square was calculated to find out the association between the post test scores of control and interventional groups with their selected demographic variables. These findings revealed that there was no significant association found between the post-test scores of control and interventional groups with selected demographic variables.

Hypotheses 3: There is a significant association between the level of pain during first stage of labour among the primi gravida mothers with their selected demographic variables.

This study finding reveals that there is no association in the level of pain during first stage of labour among the primi gravida mothers with their selected demographic variables in experimental and control group. So this hypothesis was rejected.



# **CHAPTER VI**

## **SUMMARY, CONCLUSION, LIMITATION AND RECOMMENDATION**

This chapter deals with summary, conclusion, limitation and recommendation of the study. Further it includes implication for nursing practice, nursing education, nursing administration and recommendation for further nursing research.

### **Summary**

The present study was to evaluate the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore.

### **Objectives of the Study**

- To assess the pre and post level of pain during first stage of labour among primi gravida mothers in experimental and control group.
- To evaluate the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in experimental group.
- To find out the association between the levels of pain during first stage of labour among primi gravida mothers with their selected demographic variables.

The main aim of the study was to evaluate the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in ICC hospital at Coimbatore.

A quasi experimental non randomized control group design was chosen for the study. The samples were selected by non probability consecutive sampling technique. The sample selected for the present study was decided to be 60, 30 for experimental group and 30 for control group. The data collected by observational method by using San Diego non verbal pain scale to assess the level of pain.

The tool was used to collect data, which consist of two parts;

Part-1: Consist of demographic data(age, occupation, type of family, monthly income, religion). Part -11: Consist of San Deigo non verbal pain scale used to assess the level of pain.

The content validity of the tool was evaluated by five experts, 3 of them were experts in maternity nursing and 2 of them were specialized in obstetrics and gynecology. The data was collected for one month in ICC hospital at Coimbatore.

The response was analysed through descriptive statistics (mean, frequency, percentage and standard deviation) and inferential statistics (paired and unpaired 't' test)

## Implication of the Study

The research has derived the following implications from the study which are of primary concern in the field of nursing practice, nursing education, nursing administration, and nursing research.

## Nursing Practice

The findings of this study clearly points out that reflexology is effective in reducing pain during first stage of labour among primi gravida mothers.

The midwives have a very important role to play in enabling effective pain relief during first stage of labour among primi gravida mothers through the use of reflexology as an independent nursing intervention.

This can be facilitated by motivating nurses to;

- Learn accurate assessment of level of pain with the use of San Deigo non verbal pain scale.
- Understand the importance of reflexology as an adjunct to the pharmacological therapy.
- Encourage the use of reflexology in reducing pain during first stage of labour among primi gravida mothers.

### Nursing Education

- Training can be given to the nurses to use reflexology technique.
- Nurses can apply this reflexology to reduce pain during first stage of labour among primi gravida mothers.

### Nursing Administration

- The present study proposes to help the administrator to plan the nursing curriculum.
- Administration should motivate the nursing personnel to learn the alternative therapy.

### Nursing Research

- On the evidence of the review more research to be conducted.

- There is a necessity to conduct further studies in our country to prove the effectiveness of reflexology in reducing pain during first stage of labour among primi gravida mothers.

### Limitation

- Some sample was not co operative during the intervention.
- Some samples undergone caesarean section.

### Recommendations

- The study can be replicated with large sample size.
- The study can be conducted to assess the knowledge, attitude and practice among midwives on reflexology on pain during first stage of labour among primi gravida mothers.
- The comparative study can be conducted between experimental and control group.
- The comparative study can be conducted between effectiveness of reflexology and other alternative therapy.

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APPENDIX - A

Letter seeking permission to conduct study

From

Ms. Deepa Shalini .W,  
M Sc Nursing II Year,  
Sree Abirami College of Nursing,  
Coimbatore.

To

MEDICAL DIRECTOR,  
ICC HOSPITAL,  
TOWN HALL,  
COIMBATORE.

Through

The Principal,  
Sree Abirami College of Nursing,  
Coimbatore.

Sub: conduction of research study permission requested reg.

Respected Madam

With due respect, I Ms.Deepa Shalini,W, M. Sc Nursing II Year student studying at Sree Abirami College of Nursing, Coimbatore, require to conduct a research study as a part of the curriculum. The research topic proposed is "A study to assess the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore." Therefore I humbly request your good self to grant me permission to conduct the above stated study at your esteemed institution. I assure you Sir/Madam, to abide to the rules and regulations of your institution. Further I wish to state that this study will be useful one for the welfare of the inmates of your institution. Once again I request your kind permission.

Thanking you

Date:

Place: Coimbatore

yours faithfully

*Ms. Deepa Shalini*

  
PRINCIPAL  
Sree Abirami College of Nursing  
Machegoundampalayam Road,  
Eachanari (Po),  
COIMBATORE - 641 021.

  
ADMINISTRATOR.  
I. C. C. HOSPITAL,  
37, ISMAIL ROWTHER STREET,  
COIMBATORE - 641 001.

APPENDIX -B

Requisition for Content validity

From

Ms. Deepa Shalini .W,  
M Sc Nursing II Year,  
Sree Abirami College of Nursing,  
Coimbatore.

To

Through

The Principal,  
Sree Abirami College of Nursing,  
Coimbatore.

Sub: validation of research tool requested reg.

Respected madam

With due respect, I Ms. Deepa Shalini, II Year M. Sc Nursing student studying at Sree Abirami College of Nursing, Coimbatore, require to conduct a research study as a part of the curriculum. The research topic proposed is "A study to assess the effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore." I sincerely request to extend your guidance for my content validity.

Thanking you

Date: 26/6/15  
Place; Coimbatore

Yours faithfully

*al. Deepa Shalini*

  
**PRINCIPAL**  
Sree Abirami College of Nursing  
Machegoundanpalayam Road,  
Eachanari (Po),  
COIMBATORE - 641 021.

## APPENDIX – C

### Name list of experts who validated the tool

Dr. M.Kunthavi devi, MBBS, DGO.

Consultant in Obstetrics and Gynecology

Sree Abirami Hospital

Coimbatore.

Name list of experts who validated the tool

Prof. Mrs. S. Renuka, M.Sc (N),

HOD of Obstetrics and Gynecology Nursing,

KMCH College of Nursing,

Coimbatore.

Mrs. Ponnammal. M Sc (N),

HOD of Obstetrics and Gynecology Nursing,,

Nightingale Institute of Nursing Education,

Coimbatore. .

Mrs. Premalatha, M.Sc (N)

The HOD of Obstetrics and Gynecology nursing,

GEM College of Nursing,

Coimbatore.

Dr. G. Gladies Selvakumar,

(Foot reflexologist)

284/470, badha apartment,

Pulliyakulam,

Coimbatore.


APPENDIX - D

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool of Ms. Deepa Shalini.W, Ilyear MSc nursing student of Sree Abirami College of Nursing, Coimbatore, who has proposed to do a study on **"The effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore."**

Date:

Place:

  
Signature of the expert  
DR. KUMKUMADEVI  
S

## CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool of Ms. Deepa Shalini.W, II year MSc nursing student of Sree Abirami College of Nursing, Coimbatore, who has proposed to do a study on "The effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore."

Date: 13/7/15

Place: Coimbatore

*Alexandria*  
Signature of the expert



## CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool of Ms. Deepa Shalini.W, II year MSc nursing student of Sree Abirami College of Nursing, Coimbatore, who has proposed to do a study on **“The effectiveness of reflexology on pain during first stage of labour among primi gravida mothers in selected hospital at Coimbatore.”**

Date: 25-6-2015

Place: Coimbatore



Signature of the expert





Reg.No : 142/2007

# PRIESSNITZ INSTITUTE OF NATUROPATHY

Registered under the Provisions of S.R.Act XXVII of 1975, Govt of Tamilnadu.

General Secretary : **Dr.M.KADHIRVEL**  
Mobile : 93451 33522

Date: 11.12.2015  
Ref No: 010/PIN/2015

## CERTIFICATE

This is to certify that **Ms. Deepa Shalini** had under gone training programme on reflexology from 01.05.2015 to 30.07.2015. She has specialized in reflexology for reducing pain during first stage of labour. She is competent enough to practice this alternative therapy among mothers who have undergone labour.

**Dr.M. KADHIRVEL**

**GENERAL SECRETARY**



## APPENDIX - F

### CERTIFICATE FOR EDITING

#### TO WHOMSOEVER IT MAY CONCERN

Certify that the dissertation paper titled, "A study to assess the Effectiveness of Reflexology on Pain during First Stage of Labour among Primi gravida mothers at selected hospital, Coimbatore" by Ms. W.Deepa Shalini. It has been checked for accuracy and correctness of English language used in presenting the paper is lucid, unambigious, free of grammatical or spelling error and apt for the purpose.



JESSIE LAWSKIR J.

M.A., M.A.Ed., B.Sc., PGDCE., DSE.,

## **APPENDIX -G**

### **INTERVIEW SCHEDULE REGARDING SELECTED POST FIRST STAGE OF LABOUR PAIN AND REFLEXOLOGY AMONG PRIMI GRAVIDA MOTHERS.**

#### **Demographic variables**

This section seeks information regarding demographic variables of the primi gravida mothers who undergone labour. The interviewer is requested to ask items and get response one by one please tick ( ) mark on the appropriate box.

1. Age (years)
  - a) 20-22 years
  - b) 23-25 years
2. Occupation
  - a) Unemployed
  - b) Sedentary workers
3. Type of family
  - a) Nuclear family
  - b) Joint family
4. Monthly income
  - a) < Rs 4000
  - b) > Rs 4001
5. Religion
  - a) Hindu
  - b) Christian
  - c) Muslims

## APPENDIX-H

### NON VERBAL PAIN SCALE

### SAN DEIGO

#### PROCEDURE

1. Assess patient according to each 5 observation categories.

2. Assess points according to criteria.

3. Total the points.

4. Apply points total to the 0-10 numeric scale.

5. Reassess frequently to compare scores and determine changes in pain level.

OBSERVATION	CRITERIA	POINTS	
EMOTIONS	Smiling	0	
	Anxious, irritable	1	
	Almost in tears	2	
MOVEMENTS	None	0	
	Restless, slow decreased movement	1	
	Immobile, afraid to move	2	
VERBAL CUES	States no pain	0	
	Whining, whimpering, moaning	1	
	Screaming, crying	2	
FACIAL CUES	Relaxed, calm expression	0	
	Drawn around mouth and eyes	1	
	Facial frowning, wincing	2	
POSITIONING/GUARDING	Relaxed body	0	
	Guarding, tense	1	
	Fetal position, jumps when touched	2	

# **APPENDIX - I**

## **INTERVENTION**

### **FOOT REFLEXOLOGY PROCEDURE**

#### **Introduction**

Reflexology is an ancient art. Reflexology provides good comfort, relaxation and comfort. Studies reported that reflexology manage symptoms and provide comfort. Reflexology involves massage and the application of pressure, to points on the feet, which correspond to various organs and system in the body.

#### **Definition**

Reflexology is the application over the points on the feet which correspond to various organs and system in the body.

#### **Purpose**

- To maintain good health and wellbeing.
- To relieve the pain.
- To encourage the flow of blood.
- To promote relaxation.
- To promote healing.

## Uses for laboring mother

- Dilatation of cervix.
- Reduction of labour pain.
- Ensure normal vaginal delivery.
- Reduce fear and anxiety.
- Provide comfort

## Duration

25 pressure for 10 minutes between 2 hours intervals for both the feet.

## Articles

A tray contains

Oil for lubrication

Hand towel

Watch

Kidney tray

Site of area



## **DATA COLLECTION PROCEDURE**



## **REFLEXOLOGY INTERVENTION**

